DOCUMENT RESUME

ED 229 164 PS 013 523

AUTHOR Drewry, Debra L.; Clark, Maxine L.
TITLE Factors Important in the Formation of Preschoolers' Friendships.
PUB DATE Mar 83
NOTE 21p.; Paper presented at the Annual Meeting of the Southeastern Psychological Association (Atlanta, GA, March 23-26, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Age; Family Structure; *Friendship; Intelligence; Interpersonal Attraction; *Predictor Variables; *Preschool Children; Preschool Education; Race; Self Concept; Sex; Siblings; Social Class; Sociometric Techniques
IDENTIFIERS *Popularity; *Reciprocity

ABSTRACT

Reciprocity of friendships and variables related to popularity were studied in 47 male and 25 female preschoolers, of whom 15 percent were nonwhite. Subjects were administered the Peabody Picture Vocabulary Test, the Primary Self Concept Inventory, and a sociometric measure which yielded data on popularity and type of friendship pairings (reciprocal versus nonreciprocal). Additional data were gathered on physical attractiveness, birth order, number of siblings, social class, and the nature of the family structure (intact versus single parent). Reciprocal dyads were more similar in popularity scores and age than were nonreciprocal dyads; however, reciprocal dyads did not differ in sex or racial composition. More than 75 percent of the sample selected same-sex best friends, and 77 percent chose same-race best friends. Age, popularity, and stability of friendship discriminated the reciprocal from the nonreciprocal groups. In addition, six variables predicted preschool popularity: personal self-concept, peer attractiveness, social self-concept, stability of friendship, attractiveness as rated by college students, and verbal intelligence. (Author/MP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED229164

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

Factors Important in the Formation of Preschoolers' Friendships

Debra L. Drewry and Maxine L. Clark

Wake Forest University

Paper presented at the Southeastern Psychological Association, Atlanta, GA, March, 1983.

PS013523

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Debra L. Drewry
M.L. Clark

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Abstract

Reciprocity of friendships and variables related to popularity were studied in 47 male and 25 female preschoolers, ages three to five, fifteen percent nonwhite. They were administered the Peabody Picture Vocabulary Test, Primary Self Concept Inventory and a sociometric measure which yielded data on popularity and type of friendship pairings (reciprocal vs. non-reciprocal). Additional data was gathered on physical attractiveness, birth order, number of siblings, social class, and the nature of the family structure (intact vs. single parent). Reciprocal dyads were more similar in popularity scores and age than the non-reciprocal dyads, however they did not differ in their sex or race composition. More than seventy-five percent selected both same sex and seventy-seven percent same race best friends. Age, popularity and stability of friendship discriminated the reciprocal from the non-reciprocal groups. In addition, six variables predicted preschool popularity: personal self-concept, peer attractiveness, social self-concept, stability of friendship, attractiveness rated by college students, and verbal intelligence.

Factors Important in the Formation of Preschoolers' Friendships

Parten (1932) studied the social participation among preschool children by observing their spontaneous play behavior and found that as age increased preschoolers spent less time in parallel play and more time in cooperative play activities. Since the 1930s, research on social behavior of children has consistently increased and one area that has evolved is the study of children's friendship selection. Much of the research on friendship selection has measured the characteristics of elementary school friendships. It has been found that personal characteristics such as sex (Criswell, 1939; St. John & Lewis, 1975; Singleton & Asher, 1977), race (Criswell, 1939; Shaw, 1974), physical appearance (Adams & Crane, 1980), social class (Glidewell, Kantor, Smith, & Stringer, 1966), and self-concept (Bradley & Newhouse, 1975) influence peer selection.

Some studies have focused on friendship selection in preschoolers and results have paralleled those for elementary school children. It has been observed that preschoolers, ages 4 to 6, are capable of establishing dyadic relationships (Gesell, 1940; Green, 1933; Hartup, 1975). Same-sex friendships are more preferable and frequent in preschoolers (Hartup, 1970); however, when cross-sex relations are observed, females are found to be liked more and chosen more often by preschool boys and girls (Dion & Berscheid, 1974; Hayes, [illegible]8). Although elementary school children make more own-race than cross-race and more same-sex than cross-sex choices for friends (Asher, Gottman, & Oden, 1977), sex has a stronger influence than race on friendship choices (St. John & Lewis, 1975). A consistent pattern for the racial composition of and the effect of sex versus race on friendship choices has not been found for preschoolers.

Ordinal position, physical attractiveness, and intelligence are additional variables that have been investigated in peer selection research.

Later-born children, both preschool and elementary school age, are more popular and sociable than first- or second-born children (Deutsch, 1981; McGuirk & Lewis, 1972; Miller & Maruyama, 1976). Attractive preschoolers and elementary school children were viewed by other preschool and elementary school children and adults as nicer than unattractive children (Adams & Crane, 1980), and were rated as friendlier and more popular (Langlois & Stephan, 1977). Preschool children also chose more attractive children for their friends than unattractive children (Dion, 1973). Elementary school children who exhibited higher levels of academic achievement were found to be more popular (Glidewell et al., 1966; Gronlund, 1959); however, intelligence level has been shown to have only a minimal effect upon the friendship choices of preschool children (Challman, 1932; Green, 1933; Lippitt, 1941).

Hallinan (1981) discussed the recent trends in friendship research and felt that theories of interpersonal attraction were now being used to explain friendship choices. She mentioned reciprocity and similarity as possible bases for attraction. It is generally agreed upon that children select peers that are similar to themselves in traits such as sex, race, and achievement. Similarity is thought to help validate social identity (Schacter, 1959) by reducing conflict and assuring that each person will approve of each other (Newcomb, 1961). If this is true, peers in reciprocal friendships should possess more similar traits than those children that are in non-reciprocal relationships. The purpose of the present study was to investigate the differences between reciprocal and non-reciprocal relationships in preschool children. It was hypothesized that preschoolers involved in reciprocal friendships would be more similar on the following variables: social class level, physical attractiveness, self-concept, intelligence, and birth order. Second, the study investigated those variables that

could successfully discriminate reciprocal from non-reciprocal groups. Third, the study identified those variables that could successfully predict popularity in preschool children.

Method

Subjects

The subjects were 72 preschool children from three different centers. There were 47 males and 25 females ranging in age from 3 years 5 months to 5 years 6 months. Fifteen percent of the population was nonwhite.

Measures

The sociometric technique developed by McCandless and Marshall (1957) was used to determine friendship choices. Polaroid pictures were taken of each child and then mounted. In an individual session each child was asked to point to their best friend and two other friends. Children were then divided into reciprocal or non-reciprocal dyads based on their choice of friends. All children whose choice for best friend or friend reciprocated and chose them as best friend or friend were put in the reciprocal dyad group. The non-reciprocal group was composed of those dyads in which one member did not select the other for either best friend or friend. A popularity score was also calculated by determining the proportion of times a child was selected as a friend by other class members.

The Peabody Picture Vocabulary Test (PPVT) was individually administered to measure the children's level of verbal intelligence (Dunn, 1965). The PPVT estimates verbal intelligence through measuring receptive vocabulary.

Self-concept was assessed by administering the Primary Self-Concept Inventory (Muller & Leonetti, 1974). The PSCI assesses three major domains of self-concept (personal, social, and intellectual self) by using illustrations of children in positive and negative roles. The subjects were asked to identify with one of the roles in 20 different illustrations.

By pointing to the pictures, the children were individually asked to select one girl and boy in their class who was the prettiest and most handsome, respectively. The frequency with which a child was chosen was then used as their attractiveness score. In addition, each child's picture was rated by 26 male and 26 female college students on a physical attractiveness scale ranging from 1(very unattractive) to 5(very attractive). The mean rating was used as each child's second physical attractiveness score.

A questionnaire was sent to the parents gathering information on their occupations and educational background, their preschooler's birth order, number of siblings at home, and the nature of the family structure (intact versus single parent). Social class was estimated by using the Hollingshead Two-Factor Index of Social Position (Hollingshead, 1957) which utilizes information about occupation and education.

Procedure

Each child was individually administered first the sociometric measure and then the PPVT. Within a week, the Primary Self-Concept measure was administered in small groups. The sociometric measure was readministered after six weeks to assess the stability of preschool friendships.

Results and Discussion

Two groups, reciprocal and non-reciprocal, were formed from the children's friendship choices. The reciprocal group consisted of those children who received reciprocated best friend or friend choices, while the non-reciprocal group was composed of only those children who did not receive any reciprocated choices for best friend or friend. As a result of this categorization of dyads, there were 35 reciprocal and 40 non-reciprocal dyads. Difference scores were calculated for these dyads on the following variables: popularity, age, social class, physical attractiveness (preschoolers' and college students' ratings separately), total self-concept

and its three domains, and intelligence. Children in the dyads were classified as same or different in race, sex, family structure, birth order, and number of siblings.

A series of two-way ANOVAs were calculated with reciprocity and either age, sex, race, social class, birth order, number of siblings, and family structure as independent variables and the scores from the self-concept, intelligence, attractiveness, stability of friendship, and popularity measures as dependent variables. The reciprocal and non-reciprocal groups differed on only one variable, popularity, $F(1, 73) = 5.400$, $p < .05$. The reciprocal dyads were more similar in popularity scores than the non-reciprocal dyads. The finding that reciprocal relationships occurred in popular children is consistent with that of Hartup (1970), Lee (1973; cited in Hartup, 1975), and Wasserman (1979; cited in Hallinan, 1981). Children in reciprocated relationships chose children who were the more popular children in the classroom. Preschoolers who were in the non-reciprocal group were less popular, but chose the more popular children for friends. These children were not accurate in choosing their friends, but rather chose the more socially desirable children. Thus, popularity was viewed by children in both reciprocal and non-reciprocal dyads as an important characteristic in friends.

In addition, there was a significant reciprocity by number of siblings interaction with respect to popularity, $F(1, 71) = 5.335$, $p < .05$. The children in the reciprocal dyads who had the same number of siblings were the most similar in popularity scores. Children in non-reciprocal dyads who also had the same number of siblings were the most dissimilar in popularity scores. Across reciprocity, children who had a different number of siblings were more similar in popularity scores than were those who had the same number of siblings. These children were less popular than those who

had the same number of siblings. Different results were found for the effect of siblings on peer selection in elementary school and preschool children. Although number of siblings did not affect popularity choices in older elementary school children (Young & Cooper, 1944), the greater number of siblings decreased peer-directed behaviors in 12- and 18-month old children (Lewis, Young, Brooks, & Michalson, 1975). However, no conclusive evidence has been found for the effect of number of siblings on friendship choices.

Cross-tabulations were calculated to determine the proportion of reciprocal and non-reciprocal dyads that were either same-sex, same-race, or same-family structure. There were no differences found in the sex or racial composition of the reciprocal and non-reciprocal groups. Seventy-four percent of the reciprocal and 80 percent of the non-reciprocal groups were same-sex. Findings for the racial composition of the dyads paralleled those for the sex composition. Seventy-seven percent of both reciprocal and non-reciprocal groups selected same-race friends.

Consistent with the results of past studies of preschool (Challman, 1932; Dweck, 1981) and elementary school children (Asher et al., 1977; Hartup, 1970), same-sex dyads of preschoolers are more common even though cross-sex dyads occurred. In concurrence with the results of elementary school children's friendship choices (Shaw, 1974; Singleton & Asher, 1977), preschool children preferred same-race relationships regardless of their reciprocal group. In contrast to these studies on race, this study did not reveal a stronger sex than race effect in the friendship choices of preschoolers. Overall, the percentage of same-sex and same-race friendships were almost equal. Hence, it appears that as age increases, sex also increases, while race decreases, in the importance of choices for children's friendships.

A trend was observed, $\chi^2(1, 73) = 3.122$, $p < .10$, for dyads in the reciprocal group to have the same rather than different family structure. Little difference in family structure was found for the non-reciprocal group. These results confirm the findings of previous studies by Biller and Davids (1973), Hetherington (1972), and Mitchell and Wilson (1958) that investigated the effect of broken homes on the development of children. Boys or girls without a father are less popular, more dependent, and have more difficulty in forming positive peer relations than children in intact families.

Dyads in the reciprocal group were more similar in age, whereas dyads in the non-reciprocal group were more dissimilar in age, $r = .200$, $p < .05$. A review of studies concerned with the contribution of age to preschool children's friendships and their popularity revealed different results. Challman (1932) observed that preschool children interact with other children who are similar in age. On the other hand, Lippitt (1941) and Moore and Updegraff (1964) found that the age of preschoolers did not affect their popularity. This study supported these results; age was significantly correlated with friendship choices, but not popularity. In addition, these results reveal that friendship choices and popularity are different concepts.

A discriminant analysis was calculated with reciprocity as the criterion variable and the scores from the self-concept test, PPVT, popularity, physical attractiveness, stability of friendship, age, and social class as predictor variables (see Table 1). Three variables significantly predicted the reciprocity groups: age, popularity, and stability of friendship. The reciprocal dyads were more similar in age, had more similar popularity ratings, and after six weeks were more similar in the number of original friends chosen than the non-reciprocal dyads. The dyads in the reciprocal group were more stable and those children in the reciprocal dyads were more popular than the preschoolers

in the non-reciprocal dyads. The first discriminant function was significant, $\chi^2(3, 71) = 9.321$, $p < .05$. The correct classification of predicted group membership to actual group membership was calculated (see Table 2). Results indicated that 69% of the reciprocal dyads, 63% of the non-reciprocal dyads, and 65% of the total number of dyads were correctly classified. These results coincide with those obtained from previous researchers who found positive effects of reciprocity and popularity on friendship choices of dyads over time (Marshall & McCandless, 1957; Wasserman, 1979; cited in Hallinan, 1981).

A stepwise multiple regression coefficient was calculated with popularity as the criterion variable and age, social class, number of siblings, self-concept dimensions, intelligence, attractiveness, and stability of friendship as predictor variables. The popularity and predictor variables' scores for each child were used in this analysis ignoring reciprocity groupings. There were two significant predictors of popularity: peer attractiveness, $F(2, 68) = 4.511$, $p < .025$, and intellectual self-concept, $F(2, 68) = 3.538$, $p < .05$. The significant multiple predictors for popularity were these variables in addition to attractiveness as rated by college students, $F(3, 67) = 4.168$, $p < .01$, ($R = .396$, $R^2 = .157$), shown in Table 3. Those children who were rated as more attractive and who perceived themselves as having a high intellectual self-concept were more popular. Thus, as early as the pre-school years, popular children are aware of their capability to accomplish tasks. These results, with respect to the attractiveness variable, support the findings of Dion (1973) and Dion and Berscheid (1974) that the more attractive children were chosen more frequently as friends.

A second stepwise multiple regression coefficient was calculated with popularity as the criterion variable and the previous variables (social class, number of siblings, self-concept dimension, intelligence, attractiveness

stability of friendship, and age) with the addition of race and sex as predictor variables (see Table 4). Race and sex were entered as dummy variables and race was weighted in the analysis because of the small proportion of blacks in the sample. Six variables significantly predicted popularity: personal self-concept, $F(6, 114) = 9.567$, $p < .001$; peer attractiveness, $F(6, 114) = 4.888$, $p < .001$; social self-concept, $F(6, 114) = 12.986$, $p < .001$; stability of friendship, $F(6, 114) = 9.996$, $p < .001$;attractiveness rated by college students, $F(6, 114) = 7.076$, $p < .001$; and, verbal intelligence, $F(6, 114) = 2.719$, $p < .025$. These variables were the most significant multiple predictors for popularity, $F(6, 114) = 8.076$, $p < .001$, ($R = .546$, $R^2 = .298$). Those children who had high scores on personal self-concept, attractiveness rated by both peers and college students, stability of friendship, and intelligence measures were more popular. Children with low social self-concept scores were less popular. These variables, with race weighted and race and sex dummied, accounted for 30% of the variance in the prediction of popularity, whereas without race weighted and sex only 16% of the variance of popularity was accounted for by the three multiple predictors. The discrepancy suggests that attractiveness and intellectual self-concept predict popularity mainly for the white children, while personal and social self-concepts, stability of friendship, intelligence and attractiveness might be more predictive of popularity for both black and white preschool children when their numbers are equal in the sample. Future studies that contain equal number of blacks and whites could determine if there are different predictors for popularity of black and of white children.

In conclusion, the results obtained from this study supported the majority of findings from many different studies that investigated friendship selection. The results indicated that children in reciprocated dyads

were more similar in popularity scores than children in unreciprocated dyads. No sex or race differences were found between reciprocal and non-reciprocal groups; the majority of the dyads were same-sex and same-race. The variables that significantly discriminated reciprocal from non-reciprocal dyads were age, popularity, and stability of friendships. The children in the reciprocal group were more similar with respect to these variables than those in the non-reciprocal group. Stepwise multiple regression analyses revealed that attractiveness and intellectual self-concept predict popularity; however, when race was weighted and race and sex were both entered as dummy variables, then personal and social self-concept, attractiveness, stability of friendship, and intelligence predicted popularity.

References

Adams, G. R., & Crane, P. Expectations of preschool children's social preferences for attractive or unattractive children and adults. Child Development, 1980, 51, 224-231.

Asher, S. R., Gottman, J. M., & Oden, S. L. Children's friendships in school settings. In L. G. Katz (Ed.), Current topics in early childhood education (Vol. 1). Norwood, NJ: Ablex, 1977.

Biller, H. B., & Davids, A. Parent-child relations, personality development, and psychopathology. In A. Davids (Ed.), Abnormal child psychology. Belmont, CA: Brooks-Cole, 1973, 48-76.

Bradley, F. O., & Newhouse, R. C. Sociometric choice and social perceptions of upper elementary school children. Psychology in the Schools, 1975, 12, 219-222.

Challman, R. C. Factors influencing friendships among preschool children. Child Development, 1932, 3, 146-158.

Criswell, J. H. A sociometric study of race cleavage in the classroom. Archives of Psychology, 1939, No. 235(a).

Deutsch, F. Birth order effects on observational and sociometric measures of popularity for kindergarten children. Journal of Genetic Psychology, 1981, 138, 313-314.

Dion, K. K. Young children's stereotyping of facial attractiveness. Developmental Psychology, 1973, 9, 183-188.

Dion, K. K., & Berscheid, E. Physical attractiveness and peer perception among children. Sociometry, 1974, 37, 1-12.

Dunn, L. M. Peabody Picture Vocabulary Test. Circle Pines, MN: American Guidance Service, 1965.

Dweck, C. S. Social-cognitive processes in children's friendships. In S. R. Asher & J. M. Gottman (Eds.), The development of children's friendships. Cambridge: Cambridge University Press, 1981.

Gesell, A. The first five years of life. New York: Harper, 1940.

Glidewell, J. C., Kantor, M. B., Smith, L. M., & Stringer, L. A. Socialization and social structure in the classroom. In L. W. Hoffman & M. L. Hoffman (Eds.), Review of child development research. New York: Russell Sage Foundation, 1966.

Green, E. Friendships and quarrels among pre-school children. Child Development, 1933, 4, 237-252.

Gronlund, N. E. Sociometry in the classroom. New York: Harper & Brothers, 1959.

Hallinan, M. T. Recent advances in sociometry. In S. R. Asher & J. M. Gottman (Eds.), The development of children's friendships. Cambridge: Cambridge University Press, 1981.

Hartup, W. W. Peer interaction and social organization. In P. H. Mussen (Ed.), Carmichael's manual of child psychology (Vol. 2). New York: Wiley, 1970.

Hartup, W. W. The origins of friendship. In M. Lewis & L. A. Rosenblum (Eds.), Friendship and peer relations. New York: John Wiley & Sons, 1975.

Hayes, S. Cognitive bases for liking and disliking among preschool children. Child Development, 1978, 49, 906-909.

Hetherington, E. M. Effects of father absence on personality development in adolescent daughters. Developmental Psychology, 1972, 7, 327-336.

Hollingshead, A. B. Two-Factor Index of Social Position. Yale University, 1957.

Langlois, J. H., & Stephan, C. The effects of physical attractiveness and ethnicity on children's behavioral attributes and peer preferences. Child Development, 1977, 48, 1694-1698.

Lewis, M., Young, G., Brooks, J., & Michalson, L. The beginning of friendship. In M. Lewis & L. A. Rosenblum (Eds.), Friendship and peer relations. New York: John Wiley & Sons, Inc., 1975.

Lippitt, R. Popularity among preschool children. Child Development, 1941, 12, 305-322.

Marshall, H. R., & McCandless, B. R. A study in prediction of social behavior of preschool children. Child Development, 1957, 28, 149-159.

McCandless, B. R., & Marshall, H. R. A picture sociometric technique for preschool children and its relation to teacher judgments of friendship. Child Development, 1957, 28, 139-149.

McGuirk, H., & Lewis, M. Birth order: A phenomenon in search of an explanation. Developmental Psychology, 1972, 7, 366.

Miller, N., & Maruyama, G. Ordinal position and peer popularity. Journal of Personality and Social Psychology, 1976, 33, 123-131.

Mitchell, D., & Wilson, W. Relationship of father absence to masculinity and popularity of delinquent boys. Psychological Reports, 1967, 20, 1173-1174.

Moore, S., & Updegraff, R. Sociometric status of preschool children related to age, sex, nurturance-giving, and dependency. Child Development, 1964, 35, 519-524.

Muller, D. G., & Leonetti, R. Primary Self-Concept Inventory. Austin, TX: Learning Concepts, 1974.

Newcomb, T. M. The acquaintance process. New York: Holt, Rinehart & Winston, 1961.

Parten, M. B. Social participation among preschool children. Journal of Abnormal and Social Psychology, 1932, 27, 243-269.

St. John, N., & Lewis, R. Race and the social structure of the elementary school classroom. Sociology of Education, 1975, 48, 346-368.

Schacter, S. The psychology of affiliation. Stanford, CA: Stanford University Press, 1969.

Shaw, M. E. Changes in sociometric choices following forced integration of an elementary school. Journal of Social Issues, 1973, 29, 143-157.

Singleton, L. C., & Asher, S. R. Peer preferences and social interaction among third-grade children in an integrated school district. Journal of Educational Psychology, 1977, 69, 330-336.

Table 1

Discriminant Analysis on Difference Scores with Reciprocity as the Criterion Variable

Predictors	Group Means	
	Reciprocal	Non-reciprocal
*Age	4.857	7.675
Social class	13.314	13.225
Family structure	1.229	1.450
Birth order	.429	.550
Number of siblings	.571	.675
Intelligence	16.800	14.725
Total self-concept	2.857	2.650
Personal self-concept	1.314	1.275
Social self-concept	1.371	1.475
Intellectual self-concept	1.257	1.225
*Stability of friendship	.743	.975
*Popularity	3.371	4.775
Attractiveness rated by peers	9.629	9.550
Attractiveness rated by college students	.485	.622

Note. The smaller the mean score the greater the similarity in the dyads.

*Significant Predictors at $p < .05$

Table 2

Predicted Group Membership

Groups	Group 1	Group 2	Correctly Classified
Group 1 (N)	24	11	
Reciprocal (%)	68.6	31.4	
			65.33%
Group 2 (N)	15	25	
Non-reciprocal (%)	37.5	62.5	

Table 3

Stepwise Multiple Regression with

Popularity as the Criterion Variable

Predictors	Beta	F(3,67)	p	Overall F(3,67)	p	R	R^2
Attractiveness rated by peers	.22209	3.739	.025	4.168	.01	.396	.157
Intellectual self-concept	.19510	2.889	.05				
Attractiveness rated by college students	.18097	2.512	.10				

Table 4

Stepwise Multiple Regression with Popularity as the Criterion Variable

Race Weighted and Race and Sex as Dummy Variables

				Overall			
Predictors	Beta	F(6,114)	p	F(6,114)	p	R	R^2
Personal self-concept	.27051	9.561	.001	8.076	.001	.546	.298
Attractiveness rated by peers	.17823	4.888	.001				
Social self-concept	-.30589	12.986	.001				
Stability of friendship	.27884	9.996	.001				
Attractiveness rated by college students	.22924	7.076	.001				
Intelligence	.13410	2.719	.025				